

BRITISH WILD PLANTS IN NATURAL ASSOCIATIONS

A database source for landscaping, habitat creation and local planning

DATABASE CONTENTS, INTRODUCTION, CLASSIFICATIONS and INDEX

NB. The individual community tables and text (see Contents of Main Database below) are available as separate files.

Compiled by

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CONTENTS OF THE MAIN DATABASE

INTRODUCTION

- Management
- Sources of planting material
- Vegetation classification
- How to use the database
- Nomenclature

SECOND EDITION – FURTHER REMARKS

- Explanation of cover classes
- Scale of Conservation Ratings and Ease of Creation/Restoration
- Acknowledgements
- Abbreviations used in the text

1. WOODLAND (INCLUDING THICKETS, SCRUB, *ETC.*)

- Overview
- upland ashwood
- willow fen carr
- montane willow scrub
- lowland ashwood
- calicolous beechwood
- yew wood
- hawthorn scrub
- alder fen carr
- upland oakwood
- upland pinewood
- juniper scrub
- alder woodland
- oak – bracken woodland
- acid beechwood
- acid oakwood
- gorse scrub
- bramble scrub
- birchwood
- grey willow scrub

2. HEATHLAND

- Overview
- heather – *Racomitrium* heath
- heather – juniper heath
- bilberry – *Racomitrium* heath
- heather – bilberry – bryophyte heath
- bilberry – cloudberry heath
- heather – bilberry heath
- highland *Calluna* heath
- heather – bearberry heath
- northern alpine heath
- bilberry – wavy hair-grass heath
- bilberry – lichen heath
- dwarf gorse heath
- western gorse heath
- Cornish heath
- spring squill sea cliff heath
- heather – bell heather heath
- dune heath
- heather – sheep's fescue heath
- heather – wavy hair-grass heath

3. MISCELLANEOUS UPLAND AND SAXICOLOUS COMMUNITIES

- three-leaved rush community
- Scottish Highlands stiff sedge – moss carpet
- bryophyte snowpatch community
- dwarf willow snowpatch community
- northern wet cliff-face community
- subalpine calcifuge tall-herb community
- great wood-rush – water avens tall-herb community
- highland fern snowpatch community
- acidophilous scree community
- calcareous rock-face community
- limestone fern scree community
- wall pellitory community
- ivy-leaved toadflax saxicolous community

4. GRASSLAND

- General note on grassland establishment
- Classification of grassland
- common bent – sheep's fescue grassland
- mat-grass – heath bedstraw grassland
- heath rush – sheep's fescue grassland
- arctic alpine grassland
- tufted hair-grass snowpatch grassland
- perennial lowland siliceous grassland
- wavy hair-grass grassland
- bristle-leaved bent grassland
- bracken dominated sheep's fescue grassland
- tall meadowsweet – false oat-grass grassland
- submontane hay meadow
- false oat-grass grassland
- alluvial hay meadow
- traditional lowland hay meadow
- agricultural permanent pasture
- agricultural reseeded leys
- water meadow
- tufted hair-grass rough grassland
- Holco-Juncetum* rush pasture
- inundation pasture
- blue moor-grass calcareous grassland
- sheep's fescue – common bent calcareous grassland
- sheep's fescue snowpatch calcareous grassland
- sheep's fescue – mountain avens calcareous ledge
- sheep's fescue – carline thistle calcareous grassland
- sheep's fescue – meadow oat-grass calcareous grassland
- upright brome calcareous grassland
- tor grass calcareous grassland
- red fescue – oat-grass calcareous grassland
- sheep's fescue open chalk grassland
- sheep's fescue – mountain avens calcareous grass heath
- open grassy vegetation on metalliferous soils

5. SEA CLIFFS

- rock samphire – rock sea-spurrey crevice community
- thrift – Scot's lovage crevice community
- roseroot – thrift ledge community
- wild cabbage cliff-ledge community
- thrift – sea mouse-ear/winter annuals community
- spear-leaved orache – sea beet community of sea-bird cliffs
- red fescue sea cliff grassland

6. BEACHES AND SAND-DUNES

sea sandwort – sea rocket strandline
 sea mayweed – cleavers strandline
 sand couch/lyme grass embryonic dune vegetation
 marram dune-building vegetation
 marram – red fescue dune grassland
 red fescue – lady’s bedstraw dune grassland
 marram – false oat-grass dune grassland
 sand sedge dune vegetation
 sea-buckthorn scrub
 creeping willow dune slacks
 silverweed – common sedge dune slack
 shingle beach vegetation

7. FRESHWATER MARSHES AND RELATED VEGETATION

Overview

bog pools
 bottle sedge mire
 star sedge mire
 dioecious sedge – common butterwort mire
 common yellow-sedge – yellow saxifrage flush
 russet sedge mire
 black bog-rush mire
 deer-grass bog
 cross-leaved heath bog
 heather – bog-moss – cottongrass bog
 heather – cottongrass blanket mire
 lowland valley mire
 blunt-flowered rush fen-meadow
Juncus rush-pasture
 acid/neutral *Molinia* mire
 base-rich *Molinia* mire
 meadowsweet mire
 marsh St. John’s-wort – bog pondweed soakway
 oligotrophic springs, rills and flushes
 base-rich springs
 tufted sedge swamp
 great fen-sedge swamp
 greater tussock-sedge swamp
Phragmites reed-bed
 reed sweet-grass swamp
 greater pond-sedge swamp
 lesser pond-sedge swamp
 common club-rush swamp
 bottle sedge swamp
 water horsetail swamp
 bladder-sedge swamp
Typha swamp
 branched bur-reed swamp
 sweet-flag swamp
 arrowhead swamp
 cyperus sedge swamp
 false fox-sedge swamp
 common spike-rush swamp
 club-rush swamp
 floating sweet-grass water margin and related vegetation
Phragmites tall-herb fen
 reed canary-grass tall-herb fen

Weedy and pioneer communities of wet and marshy ground:
 colonising vegetation of unstable/transiently wet ground
 colonising vegetation of fertile shallows
 colonising vegetation of bare ground subject to flooding

8. SALT-MARSH (INCLUDING MARINE INTERTIDAL VEGETATION)

eelgrass communities
 beaked tasselweed community
 dwarf spike-rush community
 cord-grass community
 perennial glasswort stands
 annual glasswort community
 annual sea-blite community
 transitional lower salt-marsh community
 sea aster community
 common saltmarsh-grass community
 sea-purslane community
 sea rush – sea arrowgrass community
 saltmarsh rush community
 sea wormwood community
 sea rush community
 saltmarsh flat-sedge community
 slender spike-rush salt-marsh community
 shrubby sea-blite – rock sea-lavender community
 sea-purslane – sea-heath community
 lesser sea-spurrey – reflexed saltmarsh-grass community
 sea couch community
 shrubby sea-blite community
 common couch salt-marsh community
 golden samphire communities

9. AQUATIC VEGETATION OF OPEN WATER

stream water-crowfoot community
 river water-crowfoot community
 common water-crowfoot community
 pond water-crowfoot community
 brackish water-crowfoot community
 water-starwort community
 fennel pondweed community
 fennel pondweed – spiked water-milfoil community
 broad-leaved pondweed community
 perfoliate pondweed – alternate water-milfoil community
 alternate water-milfoil community
 amphibious bistort community
 Canadian waterweed community
 soft hornwort community
 rigid hornwort community
 yellow water-lily community
 white water-lily community
 common duckweed community
 gibbous duckweed community
 greater duckweed – frogbit community
 frogbit – water-soldier community
 bulbous rush community
 shoreweed – water lobelia community
 quillwort community

10. WEEDY VEGETATION

Weedy Vegetation in root crops and summer cereals
 Weedy Vegetation on arable land – light base-poor soils
 Weedy Vegetation – base-rich soils

Weedy Vegetation – hot dry poor soils
Weedy Vegetation – trampled/disturbed locations
Weedy Vegetation – fertile and moist waste ground
Weedy Vegetation – sea cliffs

GLOSSARY

REFERENCES and FURTHER READING

APPENDIX I – HABITAT CLASSIFICATION SYSTEMS

APPENDIX II – PRIORITY HABITATS

SPECIES INDEX

INTRODUCTION

I compiled this database several years ago when plant community science, or phytosociology as it is known, was still relatively new in the UK. The publication of the National Vegetation Classification (NVC) by Dr John Rodwell transformed our understanding of how and where plants grow together in typical associations and it became a tool for ecological botanists to use when examining and trying to classify vegetation. It is also indispensable for those of us in professional practice as a powerful aid to encouraging vegetation that will best succeed in a particular place under a particular management regimen.

I thought, therefore, that it would be useful to make this work available to those interested in and using the greenspaces we manage, to help explain why we do what we do and why typical groups of plant species so often grow together. I know it is rather a technical subject with its own terminology, but I hope it will be useful. Much further information is available, and I have provided a bibliography that I hope will assist.

The drive to enhance biodiversity, and an increasing demand for native planting, repair of damaged landscapes and habitat creation have created a need to know what groups of native plants can be selected, on a sound ecological and botanical basis, for use in a particular habitat type. Until the advances in phytosociology and the classification of British vegetation into groups of species which typically occur together under similar environmental conditions, it was rather hit-and-miss. Vegetation science is complex and involves specialised study and skills, but my purpose in producing *British Wild Plants in Natural Associations*¹ was to provide a simplified database and guide. By providing Tables of core species which are most likely to be found in the wild under the prevailing environmental conditions (essentially the local climate, exposure, land use, hydrology and soils/substrata) prevailing at a site, the database can be used as a template to select the basic plant assemblages which, under suitable management, will have the greatest chance of success, as well as fitting the native British landscape. We use this when planning, adapting to or enhancing our greenspaces.

Feedback from kind users of the database, often environmental professionals who are responsible for vegetation work and managing planting schemes which are desired to represent and develop into native, semi-natural habitats in Britain (that is England, Wales and Scotland), suggests it has been useful. It is even helpful when the introduction of ornamental varieties of native species is required in a scheme, since horticultural cultivars frequently have similar niche requirements to their native progenitors. The database is broadly arranged according to habitat conditions, but each species mentioned is also separately indexed. For those interested in rare and uncommon communities, I have tried to indicate in the text when a plant assemblage has special natural history and conservation interest (see also [Appendix II](#)). Other than intertidal communities in the section on salt-marsh, I have not covered the very specialist area of marine communities.

Management

This database is not a manual of techniques. There is a big gap between knowing which species should be appropriate for a location and achieving the establishment of the desired vegetation. The selection of suitable species for the site in the first place is an essential first step but, although a few notes are given on establishment and management, these topics are the domain of the specialist field ecologist, botanist and landscape scientist. They are beyond the intended scope of this publication. Several institutions run courses on habitat creation, restoration and management, including the British Ecological Society and the Chartered Institute of Ecology and Environmental Management.

An increasing literature is now accumulating on the practical aspects of native association planting and habitat creation, but it is worth recalling that these still have much potential for research, experimentation and innovation towards the development of the most successful techniques. Ecological theory, too, is always in flux and, as is pivotal to good science, the underpinning and ground-breaking theses of Clements, Gleason, Whittaker, Wilson, Harper and others on matters such as succession, ecological equilibria and the interdependence of species are continually being dissected, reconstructed and refined.

¹ The word "natural" in the context of the title does not exclude human influence. Many of the plant assemblages described have arisen through particular land use practices but they naturally form recognisable and typical communities of wild species under such regimes.

Generally, plantings which adhere to natural vegetation associations in appropriate situations should, once established, require less maintenance than exotic or poorly chosen assemblages, be more robust and resilient, and provide habitats for a rich array of fauna. It must be remembered, however, that not only do many of the plant communities take several years, and not infrequently decades, to become established, but they will move through, or cycle in, temporal and spatial ecological phases which can be modified or held in check by management or other site-specific factors. Thus, if it is desired to create and maintain a calcicolous grassland community, it should not only be suitably managed at the establishment stage, like all new plantings, but also, with the exception of rare cases in climatic extremes, it will have to be kept as grassland thereafter by permanent regimes of grazing or, most commonly in urban greenspace, cutting. The spatial and temporal aspects of vegetation ecology are highly complex but a point to be stressed is that many of the rare and threatened fauna and flora of Britain are particularly associated with traditionally managed, semi-natural habitats such as grazed heath, old meadow, woodland pasture, coppice and unpolluted wetlands.

Between 1989 and 1993, the Nature Conservancy Council, later becoming English Nature and then Natural England, carried out a review of habitat creation projects (see Parker 1995). They discovered that many such projects failed, and it is useful to note some of the shortcomings they found. Monitoring of projects, record keeping, and aftercare were often inadequate or lacking and management actions were inappropriate, insensitive to changing conditions or not taken at all. Project planning was not rigorous, and objectives were not set or were unsuitable. Financial resources were underestimated, particularly with respect to long term commitment, and projects were too ambitious. The importance of the suitability of soils for the vegetation required was often not recognised. Betts work hard to overcome these issues.

It is worth emphasising that management of relatively small areas of specialised anthropogenic habitat against the natural ecological trends for the site can be very costly. It is usually more economic and more practical, and likely to be a better approach towards promoting biodiversity, to encourage ecosystems that are as self-sustaining as possible and foster the ecological processes that intrinsically lead to natural diversity.

Sources of planting material

Care should be exercised to select genetically native material. There has been an increasing commercial production and availability of native species in recent years but by no means all suppliers can be relied upon to provide truly autochthonous seeds and plants. Also, important vegetation components of semi-natural communities such as mosses and lichens are generally unavailable in the marketplace – and they require rather specialist knowledge and skills for cultivation. Natural recruitment of these non-vascular taxa is usually good, though: they tend to establish themselves with little assistance, either as opportunistic colonisers and spontaneous pioneers of early successional stages in community development or when the newly planted assemblage matures to a suitable stage to provide the necessary ecological niches for them.

Occasionally, material is also available from site clearance operations, but rarer components of the desired community can be very difficult to obtain. Many rare plants are strictly protected by law and may only be harvested or transplanted under licence (see also Botanical Society of the British Isles 1991). Fortunately, however, rare species only occasionally play a critical role in community vegetation ecology – although they may be highly desirable as a contribution to the nature conservation value of a site. I have mentioned some of the less common species in the comments to each community. Sometimes they appear spontaneously but whenever scarce or rare plants are to be involved in a scheme, advice should be sought from a professional botanist, biological conservation specialist or a competent national body such as the Joint Nature Conservation Committee in Peterborough.

In many cases, a development, landscaping or habitat creation project will cover an area where fragments of native semi-natural vegetation remain near-by. Even if these have been damaged or are degraded in some way, they often form important reservoirs of the autochthonous species needed for the project's greenspace and may spread naturally under appropriate conditions or can be used for propagation. Taking a long-term view and setting up a plant nursery area on site or at a convenient location in the region to bulk up the material may be essential for larger schemes.

Vegetation classification

The NVC (National Vegetation Classification), the European Community's CORINE (Co-ordination of Information on the Environment) Biotopes and, with respect to European Union Habitats of Community Interest, the Natura 2000 Habitat Codes are probably the three main ecological vegetation classification systems most familiar to British phytosociologists. The *British Wild Plants in Natural Associations* database draws on these and from direct experience in plant community surveys, projects and research carried out in professional practice since 1983. Wherever possible, the groupings are related back to NVC communities and CORINE biotopes (now Palaeartic habitats – see below) /Natura 2000 habitats, but there is overlap between classifications and community types and I have sometimes preferred to combine two or more (see also [Appendix I](#)). There are some 285 communities described in the NVC, the publication of which is *British Plant Communities* (Rodwell 1991 *et seq.*). The CORINE communities are described in Devillers, Devillers-Terschuren & Ledant (1991 – see also Devillers & Devillers-Terschuren 1993, 1996). The Natura 2000 habitats are listed and described in European Commission (1999) and are derived from the latest classification of Palaeartic habitats (Devillers & Devillers-Terschuren 1996) which updated and extended CORINE – a database known as PHYSIS at the Institut Royal des Sciences Naturelles in Brussels holds all this phytosociological information – and that's not all: newer systems like EUNIS (European Union Nature Information System) supplement it. This is all fascinating but becomes rather complicated and well beyond my self-imposed remit for the present work. Readers should please bear in mind that, for simplicity, I refer to the main European habitat classification as “PAL”, and that Natura 2000 only covers natural habitat types of Community Interest whose conservation requires the designation of Special Areas of Conservation (SACs) as listed in Annex I of the EU Habitats Directive.

Readers will be aware of the collaboration in all this between UK and EU scientists and the exceptional synergy and benefit that has arisen in this (and so many other fields) from our EU membership. I and all the scientists I know reject any idea of leaving the EU and we shall not do so in our work or philosophy.

How to use the database

The data (separately in the main database) are arranged for easy access. Broad vegetation types are grouped together, and information as has seemed appropriate on such matters as climatic/geographical divisions and general soil type/substratum is given at the beginning of each section. Tables of core plant species for the naturally associated assemblages of vegetation are then presented. Excepting Weedy Vegetation and a few other communities, which have been simplified, each Table shows the scientific and common English names of the principal species of the community – that is, the ones that are nearly always present and that, in our temperate ecosystems, are often the ones with the highest percentage ground cover – followed by a selection of other species that, although they may be completely absent, are generally characteristic of that community. Although based on the NVC data, which are derived from statistically analysed samples, this division remains somewhat arbitrary and must be treated as suggestive rather than definitive. It is worth remembering that very many other species occur from time to time in most of the assemblages, adding further nuances of community character, indications of opportunistic colonisation and reflections of site-specific conditions. RH Whittaker's well-known paper (1951) indicates that each species in a community tends to have its own centre of population away from which it gradually declines, the pattern corresponding to the species' capacity to maintain a population against the gradients of environment and competition and, although species are grouped, there are only well-defined borders in special habitat situations such as in abrupt changes caused by sudden alterations in hydrology, geology or land-use. The aim in this publication, though, is to provide a guide to the more general structure and composition of the British vegetation community types for practical use.

The proportion of each species in a stand of vegetation is conventionally measured as its amount of ground cover (the number of times it occurs, or its abundance, may be combined or associated with this measure). Cover is liable to vary greatly both spatially and temporally (especially seasonally) but I have attempted to indicate the typical maximum ground cover for each species listed, as may be expected to be seen within a reasonably representative homogeneous stand of an example of the community where that species occurs. The size of a homogeneous stand of a vegetation community is linked to several endogenous and exogenous ecological and environmental factors, but an appreciation of scale and the dynamic response of vegetation is important for correct interpretation. For example, a relatively undisturbed tract of woodland on a single soil type on flat ground, without rides or changes in hydrology, is likely to be homogeneous overall and to be represented by a single community type. Conversely, a heathland on rough terrain over sandstone and gravelly drift, used for dog walking, riding

and grazing and experiencing occasional fires, will tend to be heterogeneous and display clear divisions of several different heathy community types over quite short distances. Mosaics are common in semi-natural vegetation stands and it will often be a desirable option to create them to boost biodiversity.

It is very important to appreciate the potential for ecological change in plant communities over time. One must also realise that British vegetation is hugely variable and there are few hard and fast rules. As mentioned above, it is stressed that no attempt has been made to list all the species found in every community, but rather the principal and typical ones to indicate a core assemblage. The Tables are designed to provide a dependable aid to planning a native planting scheme with the major characteristics which would prevail in the wild in a defined situation, both in terms of the species content and the range of their ground cover/abundance.

Comments follow each community Table in the main database with a few brief notes on distribution and habitat, vegetation structure, establishment, management, *etc.* References to NVC, PAL and Natura 2000 equivalents, where relevant, are also given.

A glance at the database main Contents pages will refer readers to the pages covering all the community types – remember that these divisions are broad and that there is overlap.

In short, to review the choice of communities for a site:

1. Using the Contents pages, decide between the major options of woodland, heathland, grassland, coastal, aquatic, *etc.*
2. Read through the introduction to the section chosen and make a short list.
3. Study each of the main database Tables and the comments which follow them for the short-listed communities to make the final choice, remembering that mosaics and juxtaposition of two or more appropriate community types can be advantageous.

Nomenclature

Scientific nomenclature of the vascular plant species in the community Tables is that of *Flora Europaea* (Tutin *et alii* 1964-80). Although Stace (1997–2019) is more recent and I have noted some names which have changed and adopted them in the text, *Flora Europaea* is also in widespread use throughout Britain and Europe and was followed by the NVC, at least in the earlier versions. (**NB.** Changes continue to be made by taxonomists.) Vernacular English names of vascular species in common usage have also been employed throughout the Tables and text and generally follow Dony, Jury and Perring (1986). Bryophytes follow Corley and Hill (1981) with vernacular names and some scientific name synonyms noted from Edwards (1999); lichens follow Dahl (1968). The names of vegetation communities adopted by the NVC, PAL and Natura 2000, and sometimes Tansley (1939), are referred to where appropriate and have sometimes been adopted. Phytosociological systematic classification based on the work by Josias Braun-Blanquet (1932) is well developed in continental Europe and the naming of plant assemblages by studying their total floristic composition using a standardised procedure is highly advanced. This taxonomic system is certainly useful and is now more frequently adopted by British vegetation scientists. Its fundamental unit is the *association*. These are formally classified in a Latin nomenclature within *alliances*, *orders* and *classes*. Examples appears in many of the community names and I have used it here and there but not extensively.

The Tables in the Appendices list the major divisions of the NVC communities, the Palaeartic (PAL) habitats, Natura 2000 habitats, the Biodiversity Broad Habitat Classification (BBHC), Countryside Vegetation System (CVS) class names and the correspondence between them. (Not all the PAL habitats and Natura 2000 habitats are vegetated nor are they all represented in Britain, and there are often cases when no equivalent exists between the systems.)

SECOND EDITION – FURTHER REMARKS

Following the success of the first edition, I attempted to update the information so that more recent changes and new work are included. The original 1991 CORINE system and its codes has been updated to the 1996 Palaeartic habitats classification and I have made cross references to Natura 2000 where

appropriate. I have also referred to the Biodiversity Broad Habitat Classification (BBHC) (see e.g. Jackson 2000 who also provides correspondence Tables for Phase 1 Habitats and others) and, where feasible, the Countryside Vegetation System (CVS) Vegetation Classes (Bunce *et alii* 1999). On the latter subject, readers may wish to consider the use of Ellenberg's Indicator Values for British Plants (Hill *et alii* 1999) as a monitoring tool for change in the vegetation in which they are interested – monitoring and aftercare remain perhaps the most important and frequently the most neglected aspects of habitat creation and restoration. The Ellenberg Values can be found in the Technical Annex to the second volume (Bunce *et alii* 1999) of the Centre for Ecology and Hydrology's Ecofact series (CVS above is the first). Ellenberg's values include light, moisture, pH reaction, nitrogen and salinity. By examining changes in mean indicator values from quadrat samples over time, changes can be considered with reference to any trends that they might reveal. The CVS itself is seldom truly comparable to the NVC, PAL or Natura 2000 because the CVS sample plots were placed randomly rather than selectively within homogeneous vegetation. Where good matches exist (above a similarity coefficient of 0.6), I have noted this. Nevertheless, the CVS is a useful classification and complements the other systems.

I have made an attempt at assembling the cross-referencing of some of the main systems in [Appendix I](#), but there are considerable difficulties because of revisions, historical factors and the continuing process of development of phytosociological nomenclatural standardisation. That is beyond the scope of this publication and readers should refer to appropriate specialists at, for example, the Unit of Vegetation Science at Lancaster University, the Joint Nature Conservation Committee in Peterborough or European Commission DG Environment.

The layout and presentation of *British Wild Plants in Natural Associations* have also been re-designed in a way which I hope will improve ease of use, and I have added English names for mosses and liverworts which I hope will be of help to less specialist readers, but please note I have not reviewed and updated the nomenclature for bryophytes and lichens and the original names of the NVC are used. For example, the common moss *Eurhynchium praelongum* which appears in several communities, is now *Kindbergia praelonga*.

I have added some further notes and made adaptations for website publication in 2018/2019.

C J Betts

EXPLANATION OF COVER CLASSES

The cover class column in the Tables for each community in this database is an attempt to indicate the maximum amount of ground cover for each species in a stand of that community during the season when it is in leaf (as applicable). It should be considered in the context of a homogeneous and representative stand of the vegetation type, looking down vertically from above (or imagined from such a viewpoint in e.g. woodland).

Please remember that this is only a guide and that there can be, and often are, exceptions. Note particularly that it is not uncommon for species in class 3 to occur at only a few percent cover and they may be entirely absent from some stands. Nevertheless, the three classes should prove useful in determining the balance at which to aim when working to establish a native community on a site.

- 1 These are species of typically low ground cover, a few percent only and usually less than ten percent.
- 2 These are species with a ground cover commonly falling between ten and fifty percent.
- 3 These are often the community dominants or co-dominants, generally with a cover of more than fifty percent and sometimes a hundred percent or, when in leafy layers with a conspecific understorey, even more than that.

Scale of Conservation Ratings and Ease of Creation/Restoration

(see end of text on each community in main database)

Conservation ratings are broadly classed as “high”, “moderate” or “low” with a few supplementary remarks as seems appropriate and mention of provisional Red Data Book (Rodwell & Cooch 1998) status where

applicable. Ease of creation/establishment is usually indicated as “challenging”, “demanding” or “straightforward”, again with added qualifiers as seems appropriate, but bear in mind that, spontaneity/ecesis in suitable habitats notwithstanding, most habitat creation/restoration requires considerable skill, resources and patience.

Although self-explanatory, both these are admittedly simplistic and rather subjective; but it is hoped that they will at least give readers an indication in context. Note that many communities fall within a Natura 2000 or BAP Priority Habitat. These are listed in [Appendix II](#) and sometimes noted in the main database text. The UK BAP has been succeeded by the UK Post-2010 Biodiversity Framework but its priority habitats are still used.

ACKNOWLEDGEMENTS

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CJB

In memory of Dr Andrew Malloch who has sadly died since the first edition of this work and who was, many years ago, tutor for my PhD.

ABBREVIATIONS USED IN THE TEXT

agg.	aggregate (usually of micro-species or very closely related species)
aka	also known as
aod	above ordnance datum
ca.	about (<i>circa</i>)
cf.	compare (<i>conferatur</i>)
BAP	Biodiversity Action Plan
BBHC	Biodiversity Broad Habitat Classification
CORINE	<u>C</u> o- <u>o</u> rdination of <u>I</u> nformation on the <u>E</u> nvironment
CVS	Countryside Vegetation System
E	east
e.g.	for example (<i>exempli gratia</i>)
esp.	especially
EU	European Union
EUNIS	European Nature Information System
id.	identification
JNCC	Joint Nature Conservation Committee
N	north
NB	note well (<i>nota bene</i>)
NVC	National Vegetation Classification
p	page
PAL	Palaeartic habitat(s) <i>sensu</i> Devillers – Devillers-Terschuren (1996)
p.p.	in part (<i>pro parte</i>)
S	south
SAC	Special Area of Conservation
s.l.	in the broad sense (<i>sensu lato</i>)
sp.	species (singular)
spp	species (plural)
ssp.	subspecies (singular)
sspp	subspecies (plural)
syn.	synonym
UK	United Kingdom
var.	variety
W	west
♀	female
♂	male
<	less than
>	more than

REMINDER: how to review the choice of communities for a site:

1. Using the Contents pages of the main database, decide between the major options of woodland, heathland, grassland, coastal, aquatic, etc.
2. Read through the introduction to the database section chosen and make a short list.
3. Study each of the Tables in the main database and the comments which follow them for the short-listed communities to make the final choice, remembering that mosaics and juxtaposition of two or more appropriate community types can be advantageous.

GLOSSARY

Acidophile (-ous):	thriving in base-poor, acid environments.
Aerohaline:	of plant communities where the atmospheric environment is salty (from sea-spray).
Amphidiploid:	progeny with several sets of homologous chromosomes (<i>i.e.</i> polyploid) as a result of chromosomes doubling the by crossing hybrid diploid parents.
Athalassic:	water bodies which may be saline or brackish, but which are separated from the sea.
Bocage:	Ancient land enclosure system comprising a grid of small fields surrounded by hand-built stone and earth protective bunds topped with lines of shrubs and trees hedges boundary and with ditches running along their base (especially in French Atlantic coastal areas).
Bryophyte:	a moss or liverwort (member of the botanical division BRYOPHYTA).
Calcareous:	rich in calcium salts or growing in such places.
Calcifuge:	avoiding lime-rich substrata.
Calcschist or calcschist:	a type of metamorphic rock of calcite minerals in lithology.
Chasmophytic:	of plants growing in crevices in rocks.
Chionophilous:	growing/thriving in snowy habitats.
Epiphyte:	a plant which grows on another plant (but does not take nutrients from it as a parasite would).
Carr:	woody vegetation growing in a fen or mire.
Community (ecological):	a group of organisms of different species occurring together and interacting in the same habitat.
Dystrophic:	of humus rich lakes/water bodies (often brown) with much suspended organic matter but of low dissolved nutrient status.
Ecesis:	pioneering stage of vegetation colonization of a (new) habitat.
Ecotone:	transitional boundary zone between distinctive adjacent communities.
Ecotype:	an ecological race, variety or population of a species with distinctive features adapted to a particular environment.
Edaphic:	pertaining to, or influenced by, the nature of the soil.
Euryoecious:	thriving in/growing in a wide range of habitats.
Eutrophic:	(environments) rich in the nutrients required for plant growth.
Forb:	broad-leaved herbaceous plant.

Gley:	a soil in which the C-horizon tends to be impermeable or very slowly permeable resulting in seasonal waterlogging.
Halophyte:	plant living in saline conditions.
Hydrophilous	thriving in/growing in wet conditions.
Lentic:	still or slow-flowing (of aquatic habitats).
Lotic:	fast-flowing (of aquatic habitats).
Machair:	from the Gaelic word for a low-lying plain; traditionally grazed coastal grassland on calcareous sand blown inshore.
Mesotrophic:	(environments) with intermediate levels of the nutrients required for plant growth.
Nekton (-onic):	the aquatic pelagic organisms in a water body which are free-swimming and able to move independently of the current.
Niche:	the ecological role of a species in a community with the various conditions of existence required by a species (conceptualised as "multidimensional hyperspace").
Oligotrophic:	(environments) poor in the nutrients required for plant growth.
Oro-	of mountains (from the Greek ορος).
Phenotype:	the observable structural and functional properties of a plant or other organism – the manifestation of environmental influences on its genetic constitution.
Plagioclimax:	a climax biological community formed following the deflection of an ecological succession by the activity or influence of man.
Phrygana:	cushion-forming warm Mediterranean sclerophyllous (hard-leaved) formations, often thorny and deciduous in summer.
Phytosociology:	that section of ecological science relating to the study of vegetation and plant communities, especially interactions, distribution and classification.
Podzol:	an acid soil, usually with litter at the surface, over a characteristic bleached pan of chelated iron and aluminium oxides washed downwards by high rainfall.
Psammophyte:	a plant growing in or on loose sand.
Ranker:	generally shallow (up to about 40cm over bedrock) soil which is neutral to acid in character even if over limestone.
Relevé:	a sample of vegetation usually recording details (by visual estimation) of cover and abundance of the species present within it.
Rendzina:	a shallow soil resulting from calcareous parent bedrock, often in grass-dominated areas; it has a dark, crumbly surface layer above lime-rich, pale lower strata.
Rhizosphere:	the zone of soil immediately around, influencing and influenced by, the roots of plants.

Saxicole (-ous):	living on a rocky substratum or in or among rocks or stones.
<i>Sensu lato</i> :	in the broad sense (often used of species/micro-species aggregates).
Stenoecious:	only thriving in/growing in a narrowly restricted habitat.
Stratum (pl. strata):	(in vegetation) the distinctive horizontal layers or storeys which communities of plants often form (e.g. ground, field, shrub, canopy).
Substratum:	the medium on which an individual, population or community lives.
Terricolous:	living on or in soil.
Therophyte:	an annual plant (<i>i.e.</i> completing its full growth cycle in one season).
Umbrophile (-ic):	thriving in/growing in shady habitats.

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Other useful sources of information on native vegetation planting and management include various learned science journals (*Biological Conservation, Journal of Applied Ecology, Journal of Ecology, Vegetatio, etc., etc.*) as well as regular sections in popular magazines such as *British Wildlife*.

Note (2018). Some of the above have later editions that I have not noted. Much information and many publications have now moved to the internet. I have not attempted any kind of analysis or review of that but the NVC pages of the JNCC web site are recommended <http://jncc.defra.gov.uk/page-4259>.

Rodwell (2006) contains a complete list of all the NVC communities and codes.

APPENDIX I – HABITAT CLASSIFICATION SYSTEMS

The major divisions of the NVC communities, the PAL habitats, Natura 2000 habitats, BBHC types and CVS class names and the correspondence between them.

Table 1: The eleven major divisions of the National Vegetation Classification system in Britain (Rodwell 1991 *et seq.*)

NVC major groups	abbreviation
aquatic communities	A
calcareous grasslands	CG
heaths	H
maritime cliffs	MC
mesotrophic grasslands	MG
swamps and tall-herb fens	S
sand dunes, strandline/shingle	SD
salt-marshes	SM
calcifugous grassland/montane	U
woodland and scrub	W
weed communities and other vegetation types of open habitats	OV

Table 2: The major divisions of the PAL habitat classification system (Devillers & Devillers-Terschuren 1996, updated from Devillers, Devillers-Terschuren & Ledant 1991). Not all occur in Britain.

PAL habitats first realm level (0) ²	abbreviation	PAL habitats second level	abbreviation
coastal and halophytic	1	ocean and seas, marine	11
		sea inlets and coastal features	12
		tidal rivers/estuaries	13
		mud flats/sand flats	14
		salt-marshes, salt steppes, salt scrubs, salt forests	15
		coastal sand dunes/sand beaches	16
		shingle beaches	17
		sea-cliffs and rocky shores	18
		islets, rock stacks, reefs, banks, shoals	19
		coastal agro-systems	1A
non-marine waters	2	coastal lagoons	21
		standing fresh water	22
		standing brackish and salt water	23
		running water	24
scrub and grassland	3	temperate heath and scrub	31
		sclerophyllous scrub	32
		phrygana	33

² **NB.** There are seven biotic realms as used by Udvardy (1975): Palaeartic, Nearctic, Afro-tropical, Indo-Malayan, Oceanian, Australian, Antarctic and Neotropical (South American), designated 0, 1, 2, 3, 4, 5, 6, and 7 respectively.

		dry calcareous grasslands/steppes	34
		dry siliceous grasslands	35
		alpine and subalpine grasslands	36
		humid grasslands/tall-herb communities	37
		mesophile grasslands	38
		tundra	39
		tropical grasslands	3A
		tropical shrub-lands	3B
		tropical alpine	3C
forests	4	temperate broad-leaved deciduous forest	41
		temperate coniferous forests	42
		temperate mixed forests	43
		temperate riverine & swamp forests/brush	44
		temperate broad-leaved evergreen forests	45
		evergreen rainforests	46
		semi-evergreen rainforests	47
		monsoon forests	48
		tropical montane forests	49
		tropical swamp forests	4A
		dry tropical woodland	4B
		mangrove forests	4C
bogs and marshes	5	raised bogs	51
		blanket bogs	52
		water-fringe vegetation	53
		fens, transition mires, springs	54
inland rocks, screes and sands	6	screes	61
		inland cliffs and exposed rocks	62
		eternal snow and ice	63
		inland sand dunes	64
		caves	65
		volcanic features	66
deserts	7	Polar deserts	71
		continental deserts and semi-deserts	72
		subtropical deserts and semi-deserts	73
		cool coastal deserts	74
agricultural land and artificial landscapes	8	improved grasslands	81
		crops	82
		orchards, groves, tree plantations	83
		tree lines, hedges, rural mosaics	84
		urban parks/large gardens	85
		towns, villages, industrial sites	86
		fallow land, waste places	87
		mines/underground passages	88
		industrial lagoons and reservoirs, canals	89
wooded grasslands and scrubs	9	parklands	91
		bocages	92
		wooded steppe	93
		wooded tundra	94
		tree-line ecotones	95
		savannas	96
		wooded deserts and semi-deserts	97

Table 3: The Natura 2000 natural habitat types of Community Interest whose conservation requires the designation of Special Areas of Conservation (after European Commission 1999). Please note that not all occur in Britain. (Asterisks denote Natura 2000 Priority Habitats.)

Natura 2000 habitat types of Community Interest whose conservation requires the designation of Special Areas of Conservation (Priority Habitats denoted by *)

Natura 2000 Code

Coastal and Halophytic Habitats

Open sea and tidal areas	
Sandbanks permanently but shallowly covered by sea water	1110
* <i>Posidonia</i> beds (<i>Posidonia oceanica</i>)	1120
Estuaries	1130
Mudflats and sandflats uncovered at low tide	1140
*Coastal lagoons	1150
Large shallow inlets and bays	1160
Reefs	1170
Submarine structures made by leaking gases	1180

Sea cliffs and shingle or stony beaches	
Annual vegetation of drift lines	1210
Perennial vegetation of stony banks	1220
Vegetated sea cliffs of Atlantic and Baltic coasts	1230
Vegetated sea cliffs of Mediterranean coasts with endemic <i>Limonium</i> spp	1240
Vegetated sea cliffs with endemic flora of the Macaronesian coasts	1250

Atlantic and continental salt marshes and salt meadows	
<i>Salicornia</i> and other annuals colonising mud and sand	1310
<i>Spartina</i> swards (<i>Spartina maritima</i>)	1320
Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>)	1330
*Inland salt meadows	1340

Mediterranean and thermo-Atlantic salt marshes and salt meadows	
Mediterranean salt meadows (<i>Juncetalia maritimi</i>)	1410
Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosae</i>)	1420
Halo-nitrophilous scrubs (<i>Pegano-Salsoletea</i>)	1430

Salt and gypsum inland steppes	
*Mediterranean salt steppes (<i>Limonietalia</i>)	1510
*Iberian gypsum steppes (<i>Gypsophiletalia</i>)	1520
*Pannonic salt steppes and saltmarshes	1530

Boreal Baltic archipelago, coastal and land-upheaval areas	
Baltic esker islands with sandy, rocky and shingle beach and sublittoral vegetation	1610
Boreal Baltic islets and small islands	1620
*Boreal Baltic coastal meadows	1630
Boreal Baltic sandy beaches with perennial vegetation	1640
Boreal Baltic narrow inlets	1650

Coastal Sand Dunes and Inland Dunes

Sea dunes of the Atlantic, North Sea and Baltic coasts	
Embryonic shifting dunes	2110
Shifting shoreline dunes with <i>Ammophila arenaria</i> (white dunes)	2120
*Fixed coastal dunes with herbaceous vegetation (grey dunes)	2130
*Decalcified fixed dunes with <i>Empetrum nigrum</i>	2140
*Atlantic decalcified fixed dunes (<i>Calluno-Ulicetea</i>)	2150
Dunes with <i>Hippophae rhamnoides</i>	2160
Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>)	2170
Wooded dunes of the Atlantic, Continental and Boreal region	2180
Humid dune slacks	2190
Machairs (* in Ireland)	21A0

Sea dunes of the Mediterranean coast	
<i>Crucianellion maritimae</i> fixed beach dunes	2210
Dunes with <i>Euphorbia terracina</i>	2220
<i>Malcolmietalia</i> dune grasslands	2230
<i>Brachypodietalia</i> dune grasslands with annuals	2240
*Coastal dunes with <i>Juniperus</i> spp	2250
<i>Cisto-Levenduletalia</i> dune sclerophyllous scrubs	2260
*Wooded dunes with <i>Pinus pinea</i> and/or <i>Pinus pinaster</i>	2270

Inland dunes (old and de-calcified)	
Dry sand heaths with <i>Calluna</i> and <i>Genista</i>	2310
Dry sand heaths with <i>Calluna</i> and <i>Empetrum nigrum</i>	2320
Inland dunes with open <i>Corynephorus</i> and <i>Agrostis</i> grasslands	2330
Inland dunes	2340

Freshwater Habitats

Standing water	
Oligotrophic waters with very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>)	3110
Oligotrophic waters with very few minerals on sandy soils of the West Mediterranean with <i>Isoetes</i> spp	3120
Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletalia uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i>	3130
Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp	3140
Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> -type vegetation	3150
Natural dystrophic lakes and ponds	3160
*Mediterranean temporary pools	3170
*Turloughs	3180

Running water

Fennoscandian natural rivers	3210
Alpine rivers and the herbaceous vegetation along their banks	3220
Alpine rivers and their ligneous vegetation with <i>Myricaria germanica</i>	3230
Alpine rivers and their ligneous vegetation with <i>Salix elaeagnos</i>	3240
Constantly flowing Mediterranean rivers with <i>Glaucium flavum</i>	3250
Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	3260
Rivers with muddy banks with <i>Chenopodion rubri p.p.</i> and <i>Bidention p.p.</i> vegetation	3270
Constantly flowing Mediterranean rivers with <i>Paspalo-Agrostidion</i> species and hanging curtains of <i>Salix</i> and <i>Populus alba</i>	3280
Intermittently flowing Mediterranean rivers of the <i>Paspalo-Agrostidion</i>	3290
<u>Temperate Heath and Scrub</u>	
Northern Atlantic wet heaths with <i>Erica tetralix</i>	4010
* Temperate Atlantic wet heaths with <i>Erica ciliaris</i> and <i>Erica tetralix</i>	4020
European dry heaths	4030
* Dry Atlantic coastal heaths with <i>Erica vagans</i>	4040
* Endemic Macaronesian heaths	4050
Alpine and boreal heaths	4060
* Bushes with <i>Pinus mugo</i> and <i>Rhododendron hirsutum</i> (<i>Rhododendretum hirsuti</i>)	4070
Sub-arctic <i>Salix</i> spp scrub	4080
Endemic oro-Mediterranean heaths with gorse	4090
<u>Sclerophyllous Scrub (Matorral)</u>	
Sub-Mediterranean and temperate scrub	
Stable xerothermophilous formations with <i>Buxus sempervirens</i> on rock slopes (<i>Berberidion p.p.</i>)	5110
Mountain <i>Cistus purgans</i> formations	5120
<i>Juniperus communis</i> formations on heaths or calcareous grasslands	5130
* <i>Cistus palhiniae</i> formations on maritime wet heaths	5140
Mediterranean arborescent matorral	
Arborescent matorral with <i>Juniperus</i> spp	5210
* Arborescent matorral with <i>Zyziphus</i>	5220
* Arborescent matorral with <i>Laurus nobilis</i>	5230
Thermo-Mediterranean and pre-steppe brush	
<i>Laurus nobilis</i> thickets	5310
Low formations of euphorbia close to cliffs	5320
Thermo-Mediterranean and pre-desert scrub	5330
Phrygana	
West Mediterranean cliff-top phryganas (<i>Astragalo-Plantagnetum subulatae</i>)	5410
<i>Sarcopoterium spinosum</i> phryganas	5420
Endemic phryganas of the <i>Euphorbio-Verbascion</i>	5430
<u>Natural and Semi-Natural Grassland Formations</u>	
Natural grasslands	
* Rupicolous calcareous or basophilic grasslands of the <i>Alysso-Sedion albi</i>	6110
* Xeric sand calcareous grasslands	6120
Calaminarian grasslands of the <i>Violetalia calaminariae</i>	6130
Siliceous Pyrenean <i>Festuca eskia</i> grasslands	6140
Siliceous alpine and boreal grasslands	6150
Oro-Iberian <i>Festuca indigesta</i> grasslands	6160
Alpine and subalpine calcareous grasslands	6170
Macaronesian mesophile grasslands	6180
Semi-natural dry grasslands and scrubland facies	
Semi-natural dry grasslands and scrubland facies on calcareous substrata (<i>Festuco-Brometalia</i>) (*important orchid sites)	6210
* Pseudo-steppe with grasses and annuals of the <i>Thero-Brachypodietea</i>	6220
* Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in continental Europe)	6230
* Sub-pannonic steppic grasslands	6240
* Pannonic loess steppic grasslands	6250
* Pannonic sand steppes	6260
* Fennoscandian lowland species-rich dry to mesic grasslands	6270
* Nordic alvar and precambrian calcareous flatrocks	6280
Sclerophyllous grazed forests (dehesas)	
Dehesas with evergreen <i>Quercus</i> spp	6310
Semi-natural tall-herb humid meadows	
<i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)	6410
Mediterranean tall herb grasslands of the <i>Molinio-Holoschoenion</i>	6420
Hydrophilous tall-herb fringe communities of plains and of the montane to alpine levels	6430
Alluvial meadows of river valleys of the <i>Cnidion dubii</i>	6440
Northern boreal alluvial meadows	6450
Mesophile grasslands	
Lowland hay meadows (<i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i>)	6510
Mountain hay meadows	6520
* Fennoscandian wooded meadows	6530
<u>Raised Bogs, Mires and Fens</u>	
<i>Sphagnum</i> acid bogs	
* Active raised bogs	7110
Degraded raised bogs still capable of natural regeneration	7120
Blanket bog (*if active bog)	7130
Transition mires and quaking bogs	7140
Depressions on peat substrates of the <i>Rhynchosporion</i>	7150
Fennoscandian mineral-rich springs and springfens	7160

Calcareous fens	
*Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>	7210
*Petrifying springs with tufa formation (<i>Cratoneurion</i>)	7220
Alkaline fens	7230
*Alpine pioneer formations of <i>Caricion bicoloris-atrofuscae</i>	7240
Boreal mires	
*Aapa mires	7310
*Palsa mires	7320
<u>Rocky habitats and caves</u>	
Scree	
Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsitalia ladani</i>)	8110
Calcareous and calcshist screes of the montane to alpine levels	8120
Western Mediterranean and thermophilous scree	8130
Eastern Mediterranean screes	8140
Medio-European upland siliceous screes	8150
*Medio-European calcareous scree of hill and montane levels	8160
Rocky slopes with chasmophytic vegetation	
Calcareous rocky slopes with chasmophytic vegetation	8210
Siliceous rocky slopes with chasmophytic vegetation	8220
Siliceous rock with pioneer vegetation of the <i>Sedo-Scleranthion</i> or of the <i>Sedo albi-Veronicion dillenii</i>	8230
*Limestone pavements	8240
Other rocky habitats	
Caves not open to the public	8310
Fields of lava and natural excavations	8320
Submerged or partially submerged sea caves	8330
Permanent glaciers	8340
<u>Forests</u>	
Forests of boreal Europe	
*Western Taiga	9010
*Fennoscandian hemiboreal natural old broad-leaved deciduous forests (<i>Quercus</i> , <i>Tilia</i> , <i>Acer</i> , <i>Fraxinus</i> or <i>Ulmus</i>) rich in epiphytes	9020
*Natural forests of primary succession stages of land-upheaval coast	9030
Nordic subalpine/subarctic forests with <i>Betula pubescens</i> ssp. <i>czerepanovii</i>	9040
Fennoscandian herb-rich forests with <i>Picea abies</i>	9050
Coniferous forests on, or connected to, glaciofluvial eskers	9060
Fennoscandian wooded pastures	9070
*Fennoscandian deciduous swamp woods	9080
Forests of temperate Europe	
<i>Luzulo-Fagetum</i> beech forests	9110
Atlantic acidophilous beech forests with <i>Ilex</i> and sometimes also <i>Taxus</i> in the shrub layer (<i>Quercinion robori-petraeae</i> or <i>Ilici-Fagenion</i>)	9120
<i>Asperulo-Fagetum</i> beech forests	9130
Medio-European subalpine beech woods with <i>Acer</i> and <i>Rumex arifolius</i>	9140
Medio-European limestone beech forests of the <i>Cephalanthero-Fagion</i>	9150
Sub-Atlantic and Medio-European oak or oak-hornbeam forests of the <i>Carpinion betuli</i>	9160
<i>Galio-Carpinetum</i> oak-hornbeam forests	9170
* <i>Tilio-Acerion</i> forests of slopes, screes and ravines	9180
Old acidophilous oak woods with <i>Quercus robur</i> on sandy plains	9190
Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles	91A0
Thermophilous <i>Fraxinus angustifolia</i> woods	91B0
*Caledonian forest	91C0
*Bog woodland	91D0
*Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Pandion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)	91E0
Riparian mixed forests of <i>Quercus robur</i> , <i>Ulmus laevis</i> and <i>Ulmus minor</i> , <i>Fraxinus angustifolia</i> , along the great rivers (<i>Ulmion minoris</i>)	91F0
*Pannonic woods with <i>Quercus petraea</i> and <i>Carpinus betulus</i>	91G0
*Pannonian woods with <i>Quercus pubescens</i>	91H0
*Euro-Siberian steppic woods with <i>Quercus</i> spp	91I0
* <i>Taxus baccata</i> woods of the British Isles	91J0
Mediterranean deciduous forests	
*Apennine beech forests with <i>Abies alba</i> and beech forests with <i>Abies nebrodensis</i>	9210
*Apennine beech forests with <i>Abies alba</i> and beech forests with <i>Abies nebrodensis</i>	9220
Galicio-Portuguese oak woods with <i>Quercus robur</i> and <i>Quercus pyrenaica</i>	9230
<i>Quercus faginea</i> and <i>Quercus canariensis</i> Iberian woods	9240
<i>Quercus trojana</i> woods	9250
<i>Castanea sativa</i> woods	9260
Hellenic beech forests with <i>Abies borisii regis</i>	9270
<i>Quercus frainetto</i> woods	9280
<i>Cupressus</i> forests (<i>Acer-Cupression</i>)	9290
<i>Salix alba</i> and <i>Populus alba</i> galleries	92A0
Riparian formations on intermittent Mediterranean water courses with <i>Rhododendron ponticum</i> , <i>Salix</i> and others	92B0
<i>Platanus orientalis</i> and <i>Liquidamber orientalis</i> woods (<i>Platanion orientalis</i>)	92C0
Southern riparian galleries and thickets (<i>Nerio-Tamaricetea</i> and <i>Securinegion tinctoriae</i>)	92D0
Mediterranean sclerophyllous forests	
Aegean <i>Quercus brachyphylla</i> forests	9310
<i>Olea</i> and <i>Ceratonia</i> forests	9320
<i>Quercus suber</i> forests	9330
<i>Quercus ilex</i> and <i>Quercus rotundifolia</i> forests	9340

<i>Quercus macrolepis</i> forests	9350
*Macaronesian laurel forests (<i>Laurus, Ocotea</i>)	9360
*Palm groves of <i>Phoenix</i>	9370
Forests of <i>Ilex aquifolium</i>	9380
Temperate and mountainous coniferous forests	
Acidophilous <i>Picea</i> forests of the montane to alpine levels (<i>Vaccinio-Piceetea</i>)	9410
Alpine <i>Larix decidua</i> and/or <i>Pinus cembra</i> forests	9420
Subalpine and montane <i>Pinus uncinata</i> forests (*if on gypsum or limestone)	9430
Mediterranean and Macaronesian mountainous coniferous forests	
*Southern Apennine <i>Abies alba</i>	9510
<i>Abies pinsapo</i> forests	9520
*(Sub-)Mediterranean pine forests with endemic black pines	9530
Mediterranean pine forests with endemic Mesogean pines	9540
Canarian endemic pine forests	9550
*Endemic forests with <i>Juniperus</i> spp	9560
* <i>Tetraclinis articulata</i> forests	9570
*Mediterranean <i>Taxus baccata</i> woods	9580

Table 4: The Biodiversity Broad Habitat Classification (BBHC) and UK BAP Priority Habitats as agreed by the UK Biodiversity Group. **NB.** This is based on data prior to the 2005–7 review of BAP habitats.

Biodiversity Broad Habitat Classification

1	Broadleaved, mixed and yew woodland	12	Bogs
2	Coniferous woodland	13	Standing open water and canals
3	Boundary and linear features	14	Rivers and streams
4	Arable and horticulture	15	Montane habitats
5	Improved grassland	16	Inland rock
6	Neutral grassland	17	Built-up areas and gardens
7	Calcareous grassland	18	Supra-littoral rock
8	Acid grassland	19	Supra-littoral sediment
9	Bracken	20	Littoral rock
10	Dwarf shrub heath	21	Littoral sediment
11	Fen, marsh and swamp	22	Inshore sublittoral sediment

Biodiversity Action Plan Priority Habitats

Ancient and/or species rich hedgerows	Mudflats
Aquifer fed naturally fluctuating water bodies	Native pine woodlands
Blanket bog	Purple moor grass and rush pastures
Cereal field margins	Reedbeds
Chalk rivers	<i>Sabellaria alveolata</i> reefs
Coastal and floodplain grazing marsh	<i>Sabellaria spinulosa</i> reefs
Coastal salt-marsh	Saline lagoons
Coastal sand dunes	Seagrass beds
Coastal vegetated shingle	Serpulid reefs
Eutrophic standing waters	Sheltered muddy gravels
Fens	Sublittoral sands and gravels
Limestone pavements	Tidal rapids
Littoral and sublittoral chalk	Upland calcareous grassland
Littoral and sublittoral chalk	Upland hay meadows
<i>Lophelia pertusa</i> reefs	Upland heathland
Lowland beech and yew woodland	Upland mixed ashwoods
Lowland calcareous grassland	Upland oakwood
Lowland dry acid grassland	Wet woodland
Lowland meadows	
Lowland heathland	
Lowland raised bog	
Lowland wood pastures and parkland	
Machair	
Maerl beds	
Maritime cliff and slope	
Mesotrophic lakes	
<i>Modiolus modiolus</i> beds	
Mud habitats in deep water	

Table 5: The Countryside Vegetation System Classes and Class Numbers (from Bunce *et al.* 1999)

Countryside Vegetation System (CVS) Class Name	Class Number
Almost weed-free wheat/other crops	1
Various crops with scattered weeds	2
Cereal crops with scattered grass weeks	3
Mixed crops with broadleaved weeds	4
Cereal crops with mixed weeds	5
Weedy leys/under-sown cereal crops	6
Fertile open hedges/crop boundaries	7
Fertile hedges/boundaries	8
Fertile tall grassland/open crop hedges	9
Tall grassland/herb boundaries	10
Stream-sides within crops	11
Fertile roadsides	12
Lowland Neutral roadsides	13
Lowland roadsides/crop boundaries	14
Lowland stream-sides	15
Moist fertile scrub/woodland	16
Lowland wetland/stream-sides	17
Fertile shaded stream-sides	18
Fertile stream-sides/wetland tall-herb	19
Grassy roadsides	20
Species-rich lowland hedges	21
Fertile wood edges/stream-sides	22
Fertile grassland	23
Dry base-rich woodland	24
Shaded grassland/hedges	25
Tall grassland/scrub by roadsides	26
Rye-grass roadsides	27
Fertile tall-herb/grassland	28
Rye-grass grassland	29
Fertile mixed grassland	30
Rye-grass/clover grassland	31
Gravel reedbeds by stream-side	32
Wet neutral grassland	33
Mixed grassland/scrub/hedges	34
Diverse base-rich woodland/hedges	35
Shaded moist stream-sides	36
Neutral grassland/scrub	37
Fertile/neutral grassland on roadsides	38
Fertile wooded stream-sides	39
Rye-grass/Yorkshire-fog grassland	40
Species-rich stream-sides/wet grassland	41
Woodland on heavy soils	42
Rye-grass/bent grass	43
Calcareous grassland	44
Shaded rushy stream-sides	45
Species-rich wooded stream-sides	46
Species-rich neutral grassland	47
Marsh/stream-sides	48
Neutral/acidic woodland patches	49
Neutral/acidic woodland	50
Wet rushy grassland	51
Neutral grassland	52
Species-rich neutral/acid grassland/scrub	53
Marsh/fen	54
Wet neutral/acid rush grassland	55
Species-rich neutral/acid grassland	56
Enriched acid grassland/moorland grass flushes	57
Species-rich moorland grass stream-sides/flushes	58
Wooded stream-sides	59
Acid grassland/stream-side/flushes	60
Species-rich acid grassland	61
Woodland on podzolic soils	62
Herb-rich stream-sides/acid grassland	63
Bracken/acid grassland	64
Herb-rich grassland/heath	65
Moorland grass stream-sides/flushes	66
Moorland grass	67
Oak/birch woodland	68
Open woodland/heath	69

Wooded acid stream-sides	70
Herb-rich moorland grass/heath	71
Acid stream-sides/flushes	72
Rushy moorland grass/stream-sides on peat soils	73
Inundated stream-sides/flushes	74
Coniferous plantations	75
Diverse acid stream-sides/flushes	76
Mature coniferous plantations	77
Species-rich moorland grass/heath	78
Mountain stream-sides/flushes	79
Moorland grass/heath on podzolic soils	80
Montane heath/acid grassland.....	81
Wet heath/bog	82
Young coniferous plantations	83
Rush heath/moorland grass.....	84
Stream-sides/flushes on peat soils	85
Wet moorland grass/stream-sides on peaty gley soils	86
Moorland grass/bog on peaty gley/peat soils	87
Moorland grass/heath/bog	88
Dry heath on podzolic soils	89
Wet heath/moorland grass on variable soils	90
Heath/moorland grass	91
Northern moorland grass/bog	92
Montane heath on podzolic soils	93
Sphagnum bog	94
Crowberry blanket bog	95
Wet deer grass bog	96
Northern blanket bog.....	97
Cotton grass bog	98
Saturated bog	99
Inundated bog/wetland.....	100

COUNTERPARTS

Community (in order of appearance in this database)	NVC	PAL	Natura 2000 (if all or part included)	BBHC
1. Woodland				
UPLAND ASHWOOD	W9	41.31, 41.F2	9180	1
WILLOW FEN CARR	W3	44.923	–	11
MONTANE WILLOW SCRUB	W20	31.622	4080	15
LOWLAND ASHWOOD	W8	41.3, 41.4,41.233, 41.F, 41.G1	9180	1
CALCICOLOUS BEECHWOOD	W12	41.13	9130	1
YEW WOOD	W13	42.A71	91J0	1
HAWTHORN SCRUB	W21, W22	31.81	5130	1
ALDER FEN CARR	W5	44.91	91E0	1
UPLAND OAKWOOD	W11, W17	41.532 (sometimes 41.E)	91A0	1
UPLAND PINEWOOD	W18	42.51	91C0, 91D0	2
JUNIPER SCRUB	W19	31.88	5130, 91C0	2
ALDER WOODLAND	W6, W7	41.C,44.121,44.31, 44.33, 44.911(part)	91E0	1
OAK – BRACKEN WOODLAND	W10	41.21 (41.G1)	9190, 91A0	1
ACID BEECHWOOD	W14, W15	41.12	9120, 9130, 91D0	1
ACID OAKWOOD	W16	41.5 (parts), 41.B12	9190, 91A0	1
GORSE SCRUB	W23	31.85	–	3
BRAMBLE SCRUB	W24, W25	31.811, 31.831	–	3
BIRCHWOOD	W4	44.A1, 44.A2, 44.B11,44.912	91D0	1
GREY WILLOW SCRUB	W1, W2	44.921	–	11

Community (in order of appearance in this database)	NVC	PAL	Natura 2000 (if all or part included)	BBHC
2. Heathland				
HEATHER – <i>RACOMITRIUM</i> HEATH	H14	31.2257 or in 31.4	4030 or 4060	15
HEATHER – JUNIPER HEATH	H15	31.453	4060	15
BILBERRY – <i>RACOMITRIUM</i> HEATH	H20	31.2125 or in 31.4	4030 or 4060	15
HEATHER – BILBERRY – BRYOPHYTE HEATH	H21	31.2128	4030, (4060 if subalpine)	10, (15)
BILBERRY – CLOUDBERRY HEATH	H22	31.2122 or in 31.4	4030 or 4060	15
HEATHER – BILBERRY HEATH	H12	31.2256	4030, (4060 if subalpine)	10, (15)
HIGHLAND <i>CALLUNA</i> HEATH	H13	31.2257 or in 31.4	4030 or 4060	15
HEATHER – BEARBERRY HEATH	H16	31.2255	4030, (4060 if subalpine)	10, (15)
NORTHERN ALPINE HEATH	H17	31.451	4060	15
BILBERRY – WAVY HAIR-GRASS HEATH	H18	31.212	4030, (4060 if subalpine)	10, (15)
BILBERRY – LICHEN HEATH	H19	31.212 or in 31.4	4060	15
DWARF GORSE HEATH	H2, H3	31.238, 31.12 if wet with <i>Erica ciliaris</i>	4030, 4020	10
WESTERN GORSE HEATH	H4, H8	31.235, 31.12 if wet with <i>Erica ciliaris</i> , 18.21	4030, 4020, 1230	10, 18
CORNISH HEATH	H5, H6	31.234, 31.11, 18.21	4040, 4010, 1230	10, 18
SPRING SQUILL SEACLIFF HEATH	H7	31.2252, 18.21	1230, 4030	18, 10
HEATHER – BELL HEATHER HEATH	H10	31.2256	4030, (4060 if subalpine)	10, (15)
DUNE HEATH	H11	16.23, 16.24	2140, 2150	19
HEATHER – SHEEP'S FESCUE HEATH	H1	31.2251, (16.24)	4030, (2150)	10, (19)
HEATHER – WAVY HAIR-GRASS HEATH	H9	31.2254	4030	10
3. Miscellaneous upland and saxicolous communities				
THREE-LEAVED RUSH COMMUNITY	U9	36.323	6150	15

Community (in order of appearance in this database)	NVC	PAL	Natura 2000 (if all or part included)	BBHC
SCOTTISH HIGHLANDS STIFF SEDGE – MOSS CARPET	U10	36.322	6150	15
BRYOPHYTE SNOWPATCH COMMUNITY	U11	36.11211, 3.32	–	15
DWARF WILLOW SNOWPATCH COMMUNITY	U12	36.11221, 36.32	–	15
NORTHERN WET CLIFF-FACE COMMUNITY	U15	62.52	–	15
SUBALPINE CALCIFUGE TALL-HERB COMMUNITY	U16, U19	31.63, 37.8	–	16
GREAT WOOD-RUSH – WATER AVENS TALL-HERB COMMUNITY	U17	37.8	6430	16
HIGHLAND FERN SNOWPATCH COMMUNITY	U18	36.1125, 61.1	8110, 8220	16
ACIDOPHILOUS SCREE COMMUNITY	U21	61.12	8110, 8220	16
CALCAREOUS ROCK-FACE COMMUNITY	OV39, OV40 ³	62.1	8210	16
LIMESTONE FERN SCREE COMMUNITY	OV38 ⁴	61.3123	8120	16
WALL PELLITORY COMMUNITY	OV41	62	–	3, 16, 17
IVY-LEAVED TOADFLAX SAXICOLOUS COMMUNITY	OV42	62	–	3, 16, 17
4. Grassland				
COMMON BENT – SHEEP’S FESCUE GRASSLAND	U4	35.12	–	8
MAT-GRASS – HEATH BEDSTRAW GRASSLAND	U5	35.11	–	8
HEATH RUSH – SHEEP’S FESCUE GRASSLAND	U6	37.32	–	8
ARCTIC ALPINE GRASSLAND	U7, U8	36.321,36.324	6150	15
TUFTED HAIR-GRASS SNOWPATCH GRASSLAND	U13, U14	36.1123 or in 36.32	–	15
PERENNIAL LOWLAND SILICEOUS GRASSLAND	U1	35.22	–	8
WAVY HAIR-GRASS GRASSLAND	U2	35.13	–	8
BRISTLE-LEAVED BENT GRASSLAND	U3	35.1	–	8

³ formerly U22 and U23 respectively

⁴ formerly U24

Community (in order of appearance in this database)	NVC	PAL	Natura 2000 (if all or part included)	BBHC
BRACKEN DOMINATED SHEEP'S FESCUE GRASSLAND	U20	31.86	–	8, (9), 15
TALL MEADOWSWEET – FALSE OAT-GRASS GRASSLAND	MG2	38.23	–	6
SUBMONTANE HAY MEADOW	MG3	38.23	6520	6
FALSE OAT-GRASS GRASSLAND	MG1 ⁵	38.22	–	8
ALLUVIAL HAY MEADOW	MG4	38.11	6510	6
TRADITIONAL LOWLAND HAY MEADOW	MG5	38.112	–	6
AGRICULTURAL PERMANENT PASTURE	MG6	38.111	–	5
AGRICULTURAL RESEEDED LEYS	MG7 ⁶	81, 38.111	–	4
WATER MEADOW		38.12	–	6
TUFTED HAIR-GRASS ROUGH GRASSLAND	MG9	37.213	–	6 ,(8)
<i>HOLCO-JUNCETUM</i> RUSH PASTURE	MG10	37.241	–	6
INUNDATION PASTURE	MG11–MG13	37.242	–	6
BLUE MOOR-GRASS CALCAREOUS GRASSLAND	CG8, 9	34.321	6210	7
SHEEP'S FESCUE – COMMON BENT CALCAREOUS GRASSLAND	GG10 ⁷ , CG11	34.321, 35.12	6230, (6210)	7
SHEEP'S FESCUE SNOWPATCH CALCAREOUS GRASSLAND	CG12	36.1124	6170	7
SHEEP'S FESCUE – MOUNTAIN AVENS CALCAREOUS LEDGE	CG14	31.495	6170	7
SHEEP'S FESCUE – CARLINE THISTLE CALCAREOUS GRASSLAND	CG1	34.331	6210	7
SHEEP'S FESCUE – MEADOW OAT-GRASS CALCAREOUS GRASSLAND	CG2 ⁸	34.32163	6210	7
UPRIGHT BROME CALCAREOUS GRASSLAND	CG3, CG5	34.32161	6210	7

⁵ compares with CVS Class 26 (tall grassland/scrub by roadsides)

⁶ compares with CVS Class 40 (rye grass/Yorkshire-fog grassland)

⁷ compares with CVS Class 65 (herb-rich acid grassland/heath)

⁸ compares with CVS Class 44 (calcareous grassland)

Community (in order of appearance in this database)	NVC	PAL	Natura 2000 (if all or part included)	BBHC
TOR GRASS CALCAREOUS GRASSLAND	CG4	34.32162	6210	7
RED FESCUE – OAT-GRASS CALCAREOUS GRASSLAND	CG6	34.32161	6210	7
SHEEP'S FESCUE OPEN CHALK GRASSLAND	CG7	34.32163	6210	7
SHEEP'S FESCUE – MOUNTAIN AVENS CALCAREOUS GRASS HEATH	CG13	31.49	6170	7
OPEN GRASSY VEGETATION ON METALLIFEROUS SOILS	OV37	34.211	6130	16
5. Sea cliffs (for weedy vegetation on sea cliffs (NVC MC7) see Section 10)				
ROCK SAMPHIRE – ROCK SEA-SPURREY CREVICE COMMUNITY	MC1	18.21	1230	18
THRIFT – SCOTS LOVAGE CREVICE COMMUNITY	MC2	18.21	1230	18
ROSEROOT – THRIFT LEDGE COMMUNITY	MC3	18.21	1230	18
WILD CABBAGE CLIFF-LEDGE COMMUNITY	MC4	18.21	1230	18
THRIFT – SEA MOUSE-EAR/WINTER ANNUALS COMMUNITY	MC5	18.21	1230	18
SPEAR-LEAVED ORACHE – SEA BEET COMMUNITY OF SEA-BIRD CLIFFS	MC6	18.2,19	1230	18
RED FESCUE SEA CLIFF GRASSLAND	MC8–MC12	18.21 (and see 38.2 for some stands).	1230	18
6. Beaches and sand-dunes				
SEA SANDWORT – SEA ROCKET STRANDLINE	SD2	16.13	1210 on stony substrata, (2110)	19
SEA MAYWEED – CLEAVERS STRANDLINE	SD3	16.12	1210 stony substrata only	19
SAND COUCH/LYME GRASS EMBRYONIC DUNE VEGETATION	SD4, SD5	16.2111	2110	19
MARRAM DUNE-BUILDING VEGETATION	SD6	16.2121	2120	19
MARRAM – RED FESCUE DUNE GRASSLAND	SD7, SD19	16.2121, 16.22, 16.227	2130	19
RED FESCUE – LADY'S BEDSTRAW DUNE GRASSLAND	SD8	16.221,1A.1	2130	19
MARRAM – FALSE OAT-GRASS DUNE GRASSLAND	SD9	16.221,16.226	2130 (NVC SD9b)	19
SAND SEDGE DUNE VEGETATION	SD10–SD12	16.221, 64	2130, 2330 (inland)	19, 8

Community (in order of appearance in this database)	NVC	PAL	Natura 2000 (if all or part included)	BBHC
SEA-BUCKTHORN SCRUB	SD18	16.251	(2160)	19
CREEPING WILLOW DUNE SLACKS	SD13–SD16	16.26, 32, 33	2190, 7210, 2170	19, 11
SILVERWEED – COMMON SEDGE DUNE SLACK	SD17	16.34	2190	19
SHINGLE BEACH VEGETATION	SD1	17.3	1220 except sandy shore drift lines	19
7. Freshwater marshes and related vegetation				
BOG POOLS	M1–M 3	51.1, 51.2, 52.1, 52.2, 54.6	7110, 7120, 7130, 7150	12, 11
BOTTLE SEDGE MIRE	M4, M5, M8, M9	54.53, 53.3, 54.2	7140, 7210, 7230	11
STAR SEDGE MIRE	M6, M7	54.423	–	11
DIOECIOUS SEDGE – COMMON BUTTERWORT MIRE	M10	54.25, (54.3)	7230 (7240 if arctic–alpine)	11
COMMON YELLOW-SEDEGE – YELLOW SAXIFRAGE FLUSH	M11	54.29	7240	18, 11
RUSSET SEDGE MIRE	M12	54.27	7240	18, 11
BLACK BOG-RUSH MIRE	M13, M14	54.21, 31.11, 54.6	7210, 4010, 7150, 7230	11, 10
DEER-GRASS BOG	M15, 17	31.11, 51.2, 52.1, 52.2, 54.6	4010, 7130, 7120, 7150	10, 12, 11
CROSS-LEAVED HEATH BOG	M16	31.11, 31.12, 51.2, 54.6	4010, 4020, 7120, 7150	10, 12, 11
HEATHER – BOG-MOSS – COTTONGRASS MIRE	M18	51.115, 51.2, 52.1, 52.2, 54.6	7110, 7130, 7120, 7150	12, 11
HEATHER – COTTONGRASS BLANKET MIRE	M19, M20	52.21, 52.22	7130, 7120, 7110	12
LOWLAND VALLEY MIRE	M21	31.12, 51.14, 54.6	4020 (if much <i>Erica ciliaris</i>), 7150	10, 11
BLUNT-FLOWERED RUSH FEN-MEADOW	M22	37.218	–	11
<i>JUNCUS</i> RUSH-PASTURE	M23	37.217	–	6, 11
ACID/NEUTRAL <i>MOLINIA</i> MIRE	M24, M25	37.312, 53.3, 51.2, 52.1, 52.2	6410, 7210, 7120, 7130	11, 12
BASE-RICH <i>MOLINIA</i> MIRE	M26	37.312	6410	11
MEADOWSWEET MIRE	M27, M28	37.1	–	11

Community (in order of appearance in this database)	NVC	PAL	Natura 2000 (if all or part included)	BBHC
MARSH ST JOHN'S-WORT – BOG PONDWEED SOAKWAY	M29, 30	22.313, (54.6)	7150	12
OLIGOTROPHIC SPRINGS, RILLS AND FLUSHES	M31–M36	54.11	–	11
BASE-RICH SPRINGS	M37, M38	54.12	7220	11
TUFTED SEDGE SWAMP	S1	53.2151	–	11
GREAT FEN-SEDE SWAMP	S2	53.3	7210	11
GREATER TUSSOCK-SEDE SWAMP	S3	53.216	–	11
<i>PHRAGMITES</i> REED-BED	S4	53.11	–	11, (13)
REED SWEET-GRASS SWAMP	S5	53.15	–	11, (13)
GREATER POND-SEDE SWAMP	S6	53.213	–	11, (13)
LESSER POND-SEDE SWAMP	S7	53.212	–	11, (13)
COMMON CLUB-RUSH SWAMP	S8	53.12	–	11, (13)
BOTTLE SEDGE SWAMP	S9, 27	53.2141, 54.5	7140	11
WATER HORSETAIL SWAMP	S10	53.147	–	11
BLADDER-SEDE SWAMP	S11	53.2142	–	11
<i>TYPHA</i> SWAMP	S12, 13	53.13	–	11, (13)
BRANCHED BUR-REED SWAMP	S14	53.143	–	11, (13)
SWEET-FLAG SWAMP	S15	53.144	–	11, (13)
ARROWHEAD SWAMP	S16	53.141	–	11, (13)
CYPERUS SEDGE SWAMP	S17	53.218	–	11, (13)
FALSE FOX-SEDE SWAMP	S18	53.219	–	11, (13)
COMMON SPIKE-RUSH SWAMP	S19	53.14A, 22.312, 15.339	–	11
CLUB-RUSH SWAMP	S20, 21	53.17	–	11, (13)

Community (in order of appearance in this database)	NVC	PAL	Natura 2000 (if all or part included)	BBHC
FLOATING SWEET-GRASS WATER MARGIN AND RELATED VEGETATION	S22, 23	53	–	11, (13)
<i>PHRAGMITES</i> TALL-HERB FEN	S24–S26	53.112, 54.21, 53.3	7210	11
REED CANARY-GRASS TALL-HERB FEN	S28	53.16	–	11, (13)
Weedy and pioneer communities of wet and marshy ground	OV28–OV36	see 8,5, 2	–	various
8. Salt-marsh (including marine intertidal vegetation)				
EELGRASS COMMUNITIES	SM1	11.31, 11.32	(NB 1110/1130/1140/1150/1160)	22, 21
BEAKED TASSELWEED COMMUNITY	SM2	11.41, 2 3.21	(NB 1110/1130/1140/1150/1160)	22, 21
DWARF SPIKE-RUSH COMMUNITY	SM3	11.421, 23.22	(NB 1110/1130/1150/1160)	21
CORD-GRASS COMMUNITY	SM4–SM6	15.21	1320, 1130	21
PERENNIAL GLASSWORT STANDS	SM7	15.622	1310, 1420, (1130)	21
ANNUAL GLASSWORT COMMUNITY	SM8	15.111	1310, (1130)	21
ANNUAL SEA-BLITE COMMUNITY	SM9	15.111	1310, (1130)	21
TRANSITIONAL LOWER SALT-MARSH COMMUNITY	SM10	15.323	1330, (1130)	21
SEA ASTER COMMUNITY	SM11, SM12	15.322, 15.41	1330, (1130)	21
COMMON SALTMARSH-GRASS COMMUNITY	SM13	15.31	1330, (1130)	21
SEA-PURSLANE COMMUNITY	SM14	15.321, 15.62	1330, (1130)	21
SEA RUSH – SEA ARROWGRASS COMMUNITY	SM15	15.33A	1330, 1410, (1130)	21
SALTMARSH RUSH COMMUNITY	SM16	15.331	1330, 1340 (inland), (1130)	21, 6
SEA WORMWOOD COMMUNITY	SM17	15.33B	1330, (1130)	21
SEA RUSH COMMUNITY	SM18	15.33A	1330, 1410, (1130)	21
SALTMARSH FLAT-SEDGE COMMUNITY	SM19	15.338	1330, (1130)	21
SLENDER SPIKE-RUSH SALT-MARSH COMMUNITY	SM20	15.339	1330, (1130)	21

Community (in order of appearance in this database)	NVC	PAL	Natura 2000 (if all or part included)	BBHC
SHRUBBY SEA-BLITE – ROCK SEA-LAVENDER COMMUNITY	SM21	15.337, 15.6	1420, (1130)	21
SEA-PURSLANE – SEA-HEATH COMMUNITY	SM22	15.33D	(1130)	21
LESSER SEA-SPURREY – REFLEXED SALTMARSH-GRASS COMMUNITY	SM23	15.34, 15.4	1340, (1130)	6
SEA COUCH COMMUNITY	SM24	15.35	(1130)	21
SHRUBBY SEA-BLITE COMMUNITY	SM25	15.623	1420, (1130)	21
COMMON COUCH SALT-MARSH COMMUNITY	SM28	15.35	(1130)	19, 6
GOLDEN SAMPHIRE COMMUNITIES	SM26	15.321, 15.35	(1130)	21
EPHEMERAL SALT-MARSH VEGETATION (not in database – see note in text)	SM27	15.3	1310, (1130)	21
9. Aquatic vegetation of open water				
STREAM WATER-CROWFOOT COMMUNITY	A17	22.432	–	14
RIVER WATER-CROWFOOT COMMUNITY	A18	24.44	–	14
COMMON WATER-CROWFOOT COMMUNITY	A19	22.432	–	13, 14
POND WATER-CROWFOOT COMMUNITY	A20	22.432	–	13, (14)
BRACKISH WATER-CROWFOOT COMMUNITY	A21	11.43, 23.21	(NB 1110/1130/1150/1160)	13
WATER-STARWORT COMMUNITY	A16	22.432	–	13, 14
FENNEL PONDWEED COMMUNITY	A12	22.42	–	13, 14
FENNEL PONDWEED – SPIKED WATER-MILFOIL COMMUNITY	A11	22.42	–	13, 14
BROAD-LEAVED PONDWEED COMMUNITY	A9	22.431	–	13, 14
PERFOLIATE PONDWEED – ALTERNATE WATER-MILFOIL COMMUNITY	A13	22.42	–	13, 14
ALTERNATE WATER-MILFOIL COMMUNITY	A14	22.42	–	13, 14
AMPHIBIOUS BISTORT COMMUNITY	A10	22.431	–	13
CANADIAN WATERWEED COMMUNITY	A15	22.42	–	13, 14

Community (in order of appearance in this database)	NVC	PAL	Natura 2000 (if all or part included)	BBHC
SOFT HORNWORT COMMUNITY	A6	22.42	– (NB 1150)	13
RIGID HORNWORT COMMUNITY	A5	22.42	–	13
YELLOW WATER-LILY COMMUNITY	A8	22.431	–	13, 14
WHITE WATER-LILY COMMUNITY	A7	22.431	–	13
COMMON DUCKWEED COMMUNITY	A2	22.411	–	13, 14
GIBBOUS DUCKWEED COMMUNITY	A1	22.411	–	13
GREATER DUCKWEED – FROGBIT COMMUNITY	A3	22.411	–	13
FROGBIT – WATER-SOLDIER COMMUNITY	A4	22.413	–	13
BULBOUS RUSH COMMUNITY	A24	22.45 or other 22	3160, 3130	13
SHOREWEED – WATER LOBELIA COMMUNITY	A22	22.311	3110	13
QUILLWORT COMMUNITY	A23	22.311	3110	13
10. Weedy vegetation				
in root crops and summer cereals	OV6–OV12	see 8	–	4
on arable land – light base-poor soils	OV1–OV5	see 8	–	4
on base-rich soils	OV13–OV16	see 8	–	4, 5, 17
on hot dry poor soils	OV17	see 8	–	4, 5, 17
in trampled/disturbed locations	OV18–OV23	see 8	–	5, 17
on fertile and moist waste ground	OV24–OV27	see 8	–	various
on sea cliffs	MC7	18.2, 19	1230	18

Table 6: Database communities and approximate National Vegetation Classification/Palaeartic Habitats/Natura 2000/Biodiversity Broad Habitat Classification counterparts.

NB. Again, please note that there are not always equivalents of the communities/habitats between the various classification systems (see also [Introduction](#) and main text), and various sources and authors differ in their view. Brackets in Table 6 are an attempt to indicate recognised insubstantial/tentative correspondence

but the agreement generally between any two classifications can be rather loose, for example Natura 2000 21A0 (machair) can relate to up to twelve NVC communities (not detailed in this Table) (European Commission 1999). Please also be aware of formations such as limestone pavements which may support various plant communities. NVC sub-communities have been ignored for the purposes of this Table. Further help may be found in, for example, Appendix 2 of Jackson & McLeod (2000).

APPENDIX II – PRIORITY HABITATS

Table 1: Habitats Directive/Natura 2000 Priority British vegetation habitat types in danger of disappearance as listed in the European Communities Council Directive 92/43/EEC as updated⁹ and correspondence with NVC and this database's communities. Note that there are also other schemes with priority habitats such as the UK BAP (since 2012 the UK Post-2010 Biodiversity Framework).

HABITATS DIRECTIVE/NATURA 2000 PRIORITY COMMUNITY/HABITAT AND CODE	PAL HABITAT	NVC COUNTERPART (see note below)	THIS DATABASE COUNTERPART (see note below)
COASTAL LAGOONS 1150	23.21, 23.22	A21, SM2, SM3	BRACKISH WATER-CROWFOOT COMMUNITY; BEAKED TASSELWEED COMMUNITY; DWARF SPIKE-RUSH COMMUNITY
INLAND SALT MEADOWS 1340	15.34	SM23	LESSER SEA-SPURREY - REFLEXED SALTMARSH-GRASS COMMUNITY
Fixed coastal dunes with herbaceous vegetation (grey dunes) 2130	16.221–3 16.225–7	SD8, SD9b, SD11, SD12, stabilising SD7	red fescue – lady's bedstraw dune grassland; marram – false oat-grass dune grassland; sand sedge dune vegetation; stabilising marram – red fescue dune grassland
Decalcified fixed dunes with <i>Empetrum nigrum</i> 2140	16.23	H11b	dune heath
Atlantic decalcified fixed dunes 2150	16.24	H11a, H11c	DUNE HEATH
Temperate Atlantic wet heaths with <i>Erica tetralix</i> and <i>Erica ciliaris</i> 4020	31.12	M16 (& wet H3 and H4) when <i>E. ciliaris</i> present	cross-leaved heath bog (and wet dwarf and western gorse heaths) but only when <i>E. ciliaris</i> present
Dry Atlantic coastal heaths with <i>Erica vagans</i> 4040	31.234	H5, H6	Cornish heath
Important orchid sites in semi-natural dry grasslands and scrubland facies on calcareous substrata (<i>Festuco-Brometalia</i>) 6210	34.31–34.34	CG1–CG10	blue moor-grass calcareous grassland; sheep's fescue – common bent calcareous grassland; sheep's fescue – carline thistle calcareous grassland; sheep's fescue – meadow oat-grass calcareous grassland; upright brome calcareous grassland; tor grass calcareous grassland; red fescue – oat-grass calcareous grassland
Species-rich <i>Nardus</i> grasslands, on siliceous substrata in mountain areas 6230	35.12	CG11 (& some CG10 stands)	the most species-rich examples of sheep's fescue – common bent calcareous grassland
Active raised bogs 7110	51.1	M1, M3, M18, M20a	bog pools; heather – bog-moss – cottongrass bog; heather – cottongrass blanket mire
Blanket bog (Only when active) 7130	52.1, 52.2	M1, M15, M17-M20	bog pools; deer-grass bog; heather – bog-moss – cottongrass bog; heather – cottongrass blanket mire
Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> 7210	53.3	S2, S24, S25, M9, M13, M14, SD14, SD15	great fen-sedge swamp; <i>Phragmites</i> tall-herb fen; bottle sedge mire; black bog-rush mire; creeping willow dune slacks
Petrifying springs with tufa formation (<i>Cratoneurion</i>) 7220	54.12	M37, M38	base-rich springs
Limestone pavements 8240	62.3	In W8 & W9 (when wooded) also several other NVC types.	in lowland ashwood and upland ashwood. Also, various heaths, grasslands and scrub types may be on limestone pavement.
<i>Tilio-Acerion</i> forests of slopes, screes and ravines 9180	41.4	In W8 & W9	in lowland ashwood and upland ashwood
Caledonian forest 91C0	42.51	W18	upland pinewood
Bog woodland 91D0	44.A1–44.A2	W4	birchwood
Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Pandion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) 91E0	44.3, 44.2, 44.13	W5, W6, W7	alder fen carr; alder woodland
<i>Taxus baccata</i> woods of the British Isles 91J0	42.A71	W13	yew wood

Note: There are not always exact equivalents of the communities/habitats between the various classification systems. Approximate counterparts have been given in these cases. Other CORINE biotopes/Natura 2000 habitats are considered to be natural habitat types of community interest whose conservation requires the designation of Special Areas of Conservation. These are listed in Annex I of the Directive.

⁹ Official Journal of the European Communities L 206 (22 July 1992). *Council Directive of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora*. Office for Official Publications of the European Communities, Luxembourg, now updated to Natura 2000 (see European Commission 1999).

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NB. Some names may have changed in latest nomenclatures; page numbers refer to the 2003 printed edition and may not be consistent with digital download file versions.

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